

CLAIMS

1. Apparatus which provides a dry environment around the eyes of the user comprising:
an eye enclosure adapted to provide an enclosed area about the eyes of the user;
means for retaining the eye enclosure in position; and
means for supplying dry air to the eye enclosure.
2. Apparatus according to Claim 1 wherein the dry air will be air having a humidity of about 40% or less.
3. Apparatus according to Claim 1 or 2 wherein the dry air is generated by passing the air through a container of a suitable desiccant or by passing the air across condensation coils.
4. Apparatus according to any one of Claims 1 to 3 wherein the dry air is pumped to the eye enclosure.
5. Apparatus according to any one of Claims 1 to 4 wherein the air provided to the eye enclosure is provided from a source of dry air and a source of wet air which are mixed such that a desired level of dryness can be achieved.
6. Apparatus according to Claim 5 wherein the wet air is generated by passing the ambient air through water or a mixture of water and glycerol.
7. Apparatus according to Claim 5 or 6 wherein the apparatus includes means for measuring the relative humidity of the mixed air present in, or supplied to, the enclosure, and means for adjusting the mixture so that the desired level of humidity may be achieved.
8. Apparatus according to Claim 7 wherein the measurement means and the adjustment means allow the alteration of the humidity of the air supplied to the eye enclosure to be adjusted

during operation.

9. Apparatus according to Claim 7 or 8 wherein the wet and dry air is mixed in a mixing chamber before being supplied to the eye enclosure.
10. Apparatus according to any one of Claims 1 to 9 wherein the means for supplying dry air to the eye enclosure allows for substantially equal air flow to the region of each eye.
11. Apparatus according to any one of Claims 1 to 10 wherein the eye enclosure is a pair of goggles.
12. Apparatus according to Claim 11, wherein the goggles have two chambers each to cover one eye.
13. Apparatus according to Claim 11 or 12 wherein the goggles are made of plastics material.
14. Apparatus according to any one of Claims 1 to 13 wherein the apparatus is portable.
15. Apparatus according to any one of Claims 1 to 14 wherein the apparatus includes means for adjusting the temperature of the air which is present in, or supplied to, the eye enclosure.
16. A method of testing an item to be applied to the eye comprising:
 - applying the test item to at least one of the user's eyes;
 - subjecting the user to an environment around the eyes that is adjusted from the ambient environment by providing an eye enclosure and adapted to provide an enclosed area about the eyes of the user and supplying air having the adjusted environment to the eye enclosure; and monitoring the user.

17. A method of testing an item to be applied to the eye comprising:
 - subjecting the user to an environment around the eyes that is adjusted from the ambient environment by providing an eye enclosure adapted to provide an enclosed area about the eyes of the user and supplying air having the adjusted environment to the eye enclosure;
 - applying the test item to at least one of the user's eyes;
 - and monitoring the user.
18. A method according to Claim 17 wherein the eye enclosure is removed before the test item is applied.
19. A method according to Claim 18 wherein the eye enclosure is replaced once the test item has been applied to the at least one of the user's eyes.
20. A method of screening patients comprising the steps of:
 - subjecting the user to an environment around the eyes that is adjusted from the ambient environment by providing an eye enclosure and adapted to provide an enclosed area about the eyes of the user and supplying air having the adjusted environment to the eye enclosure; and monitoring the user.
21. The method of any one of Claims 16 to 20 wherein the method is used to compare the performance of contact lens materials, contact lens care products and medicaments.
22. A method for diagnosing ocular and/or systemic medical conditions comprising:
 - subjecting the user to an environment around the eyes having an environment that is adjusted from the ambient environment by providing an eye enclosure and adapted to provide an enclosed area about the eyes of the user and supplying air having the adjusted environment to the eye enclosure; and monitoring the user.

23. A method according to any one of Claims 16 to 22 wherein the environment adjusted from the ambient environment has one or more of an adjusted humidity, an adjusted temperature and the addition of a foreign body.
24. A method according to Claim 23 wherein the foreign body is pollen or pollutants.
25. A method according to any one of Claims 22 to 24 wherein the ocular condition is dry eye syndrome.
26. A method of treatment for patients having ocular and/or systemic medical condition comprising:
 - an eye enclosure adapted to provide an enclosed area about the eyes of the user;
 - means for retaining the eye enclosure in position; and
 - means for supplying air having a required humidity to the eye enclosure.
27. A method according to Claim 26 wherein the ocular condition is dry eye syndrome.
28. A method according to Claim 26 or 27 wherein the air provided to the eye enclosure has an increased humidity of at least 50%.
29. A method according to any one of Claims 16 to 28 wherein the monitoring of the user is carried out periodically or continuously while the user is wearing the eye enclosure
30. A method according to any one of Claims 16 to 29 wherein the monitoring of the user is carried out once the subjection of the user to the chosen environment is completed or the user may periodically remove the eye enclosure for monitoring to take place.
31. Apparatus for use in testing an item to be applied to the eye comprising:
 - an eye enclosure adapted to provide an enclosed area around the eyes of the user;

means for retaining the eye enclosure in position; and

means for supplying air to the eye enclosure having an environment that is adjusted from the ambient humidity.

32. Apparatus according to Claim 31 wherein the test item is contact lens, contact lens material, contact lens care products, eye care products or medicaments.
33. Apparatus according to Claim 31 wherein the test item is eye drops for use in the treatment of dry eye syndrome.
34. Apparatus for use in screening a patient comprising:
 - an eye enclosure adapted to provide an enclosed area around the eyes of the user;
 - means for retaining the eye enclosure in position; and
 - means for supplying air to the eye enclosure having a humidity that is adjusted from the ambient humidity.
35. Apparatus for use in diagnosing ocular and/or systemic medical conditions comprising:
 - an eye enclosure adapted to provide an enclosed area around the eyes of the user;
 - means for retaining the eye enclosure in position; and
 - means for supplying air to the eye enclosure having a humidity that is adjusted from the ambient humidity.
36. Apparatus according to Claim 35 wherein the ocular condition is dry eye symptoms.
37. Apparatus for use in treating a patient suffering from symptoms of ocular and/or systemic medical condition comprising:
 - an eye enclosure adapted to provide an enclosed area around the eyes of the user;
 - means for retaining the eye enclosure in position; and
 - means for supplying air to the eye enclosure having a humidity that is adjusted from

the ambient humidity.

38. Apparatus according to any one of Claims 31 to 37 wherein the environment is adjusted from the ambient environment has one or more of an adjusted humidity, an adjusted temperature and the addition of a foreign body.
39. Apparatus according to Claim 38 wherein the foreign body is pollen or pollutants.
40. Apparatus according to any one of Claims 34 to 38 wherein the means for supplying air to the eye enclosure is the apparatus of any one of Claims 1 to 15.
41. Apparatus according to Claim 40 wherein the apparatus of Claims 1 to 15 modified to supply air having a higher humidity than ambient air.